



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1850
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/051,931

01/18/2002

Mark J. Uniacke

708-1010.1

1712

7590 04/18/2007
William M. Lee, Jr.
LEE, MANN, SMITH, MCWILLIAMS, SWEENEY & OHLSON
P.O. Box 2786
Chicago, IL 60690-2786

EXAMINER

BENGZON, GREG C

ART UNIT

PAPER NUMBER

2144

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

04/18/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/051,931

Applicant(s)

UNIACKE, MARK J.

Examiner

Greg Bengzon

Art Unit

2144

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-8, 11-13 and 22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-8, 11-13, 22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Art Unit: 2144

DETAILED ACTION

Claims 1-4,6-8,11-13, 22 are pending.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 02/09/2007 has been entered.

Priority

The effective date of the subject matter in the claims in this application is January 18,2002.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2144

Claims 6-8, 12, 22 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 12, 22 recite a limitation for 'determining those ports that represent valid termination points for trails, links and link connections in the subnetworks, whereby to generate trails interconnecting said connection termination points in different subnetworks'. The claim language is broad and subject to misinterpretation as the claims do not indicate any procedural steps and criteria used in determining valid termination points and generating trails.

Claims 6-8 are rejected based on dependency on Claim 22.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 6-8, 11-13, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taghadoss (US Patent 6052722) in view of Boer et al. (US Patent 5793765), hereinafter referred to as Boer.

Taghadoss discloses (re. Claims 1) a method of managing a communication network comprising a plurality of ports, modelled according to a multiplex layer protocol defining a number of layers of multiplexing, (Taghadoss – Figure 7, Column 11 Lines 1-15) , and a network management system, the communication network being partitioned into a plurality of subnetworks. (Taghadoss - Column 1 Lines 35-65, Column 2 Lines 40-65) Taghadoss disclosed (re. Claims 1) using the predetermined multiplex layer protocol to deduce and model higher layers of functions off the given subnetwork, for the given traffic services (Taghadoss- Column 6 Lines 10-15), based on lower-level network elements (Taghadoss – Column 4 Lines 35-40).

The Examiner notes that the SDH standards define a number of layers of multiplexing, including the VC-12 and VC-4 layers that is described in the Applicant Specifications.

Taghadoss does not disclose (re. Claims 1) representing one of the ports, and representing a capability of the port for carrying, according to the multiplex layer protocol, traffic services exiting the given subnetwork at the given port. Taghadoss did not disclose (re. Claim 1) determining those ports that represent valid termination points for trails, links and link connections in the subnetworks, whereby to generate trails interconnecting said connection termination points in different subnetworks.

Boer discloses a method for determining access points between subnetworks in a digital communications network. The network is partitioned into (abstractions of) subnetworks, with the status, in particular the transport capacity on a link to an adjacent network, of each subnetwork being indicated at so-called access points. (Boer-Figures 1-2) At these access points, properties of the network are grouped, i.e. network elements and their properties are represented in a functionally combined way at a higher abstraction level. By means of the combined representation of network elements it is possible to determine a suitable link in a simple manner, without the need of using, in selecting the link, detailed information relating to the individual network elements. As a result, a substantial simplification in the control can be achieved. The repeated partitioning provides a substantially recursive procedure which expediently provides for a simplified determination of sublinks.

Boer discloses (re. Claim 1) generating, in respect of a said subnetwork, an off-network pointer exiting the subnetwork at one of said ports, whereby to establish a traffic carrying capability externally to the subnetwork, said generation performed by software in the system. (Boer - Column 2 Lines 30-65) Boer discloses that the pointer is first generated in one of said layers and functionality at other layers is generated in response thereto. (Boer - Column 3 Lines 20-45, Column 5 Lines 25-65)

Taghadoss and Boer are analogous art because they present concepts and practices regarding management of digital communication networks. At the time of the

Art Unit: 2144

invention it would have been obvious to a person of ordinary skill in the art to combine the teachings of Boer regarding access points between networks into the method and system of Taghadoss. The combination of Boer into Taghadoss would enable the system of Taghadoss to 1) generate, in respect of a said subnetwork, an off-network pointer exiting the subnetwork at one of said ports, whereby to establish a traffic carrying capability externally to the subnetwork, and 2) determine those ports that represent valid termination points for trails, links and link connections in the subnetworks, whereby to generate trails interconnecting said connection termination points in different subnetworks. The motivation for doing so would be, as Boer suggests, to allow for a network having central control to be coupled to a network having a distribute control. Selecting links in networks having a central control requires a type of control information which is different from that for networks having distributed control. The combination of Boer and Taghadoss offers the possibility of said networks to cooperate efficiently. (Boer - Column 9 Lines 45-50) Furthermore, the combination allows the access points to interrogate the respective subnetworks for the available transport capacity. (Boer - Column 10 Lines 45-60)

Claims 11 are rejected on the same basis as Claim 1.

The combination of Taghadoss and Boer disclosed (re. Claim 2) wherein the pointer is first generated in one of said layers and functionality at other layers is generated in response thereto. (Boer - Column 3 Lines 20-45, Column 5 Lines 25-65)

The combination of Taghadoss and Boer disclosed (re. Claim 3) wherein the generation of said off-network pointer is performed by software. (Boer – Column 4 Lines 60-65)

The combination of Taghadoss and Boer disclosed (re. Claim 4) further comprising identifying incomplete trails within a said partition. (Taghadoss - Column 1 Lines 60-65, Column 4 Lines 35-65, Column 6 Lines 40-65)

The combination of Taghadoss and Boer disclosed (re. Claim 6) wherein the valid termination points for trails, links and link connections are first generated in one of said layers and functionality at other layers is generated in response thereto. (Boer - Column 2 Lines 30-65, Column 8 Lines 30-65)

The combination of Taghadoss and Boer disclosed (re. Claim 7) wherein the generation of said valid termination points is performed by software. (Boer - Column 2 Lines 30-65, Column 8 Lines 30-65)

The combination of Taghadoss and Boer disclosed (re. Claim 8) further comprising identifying incomplete trails within a said partition. (Taghadoss - Column 1 Lines 60-65, Column 4 Lines 45-50, Column 6 Lines 40-65)

The combination of Taghadoss and Boer (re. Claim 12,22) determining those ports that represent valid termination points for trails, links and link connections in the subnetworks, whereby to generate trails interconnecting said connection termination points in different subnetworks. (Boer - Column 2 Lines 30-65, Column 8 Lines 30-65) Boer disclosed representing a capability of the port for carrying traffic services exiting the subnetwork at the given port (Boer – Column 4 Lines 45-50, Column 10 Lines 50-60,)

With respect to Claims 13 , the Applicant describes a computer readable storage medium for the method of Claim 1. Claim 13 is rejected on the same basis as Claim 1.

Response to Arguments

Applicant's arguments filed 02/09/2007 have been fully considered but they are not persuasive.

The Applicant presents the following argument(s) [*in italics*]:

...there is no disclosure of the claim feature of deducing and modelling "higher layers of functions off the given subnetwork, for the given traffic services". Nor is there any suggestion of doing so "based on the off network pointer".

The Examiner respectfully disagrees with the Applicant. Taken as a whole, the Applicant's argument appears to be that the off-network pointer by Boer does not provide any intelligence such that said off-network pointer by Boer is able to facilitate *deducing and modelling "higher layers of functions off the given subnetwork, for the given traffic services.*

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references.

Taghadoss explicitly disclosed distributed intelligence amongst managed objects (Taghadoss-Column 6 Lines 50-55) said managed objects (Column 5 Lines 60-65) representing layers of a network management system (Column 5 Lines 35-40) including subnetworks (Column 5 Lines 30-35). The managed objects are thus holders of information (Column 6 Lines 10-30) regarding each subnetwork, said information

Art Unit: 2144

defined by the ITU recommendations for SDH. The managed objects are responsible for propagating state changes in order to present the health and condition of the network resource, including traffic-carrying capability information, to other managed objects. (Taghadoss-Column 11 Lines 45-50, 'circuit pack failure')

The Examiner thus notes that the functions provided by the trail manager described in the claimed invention (Applicant Specifications Page 7 Line 30 thru Page 8 Line 20) for *'deducing and modelling "higher layers of functions off the given subnetwork'* is fully disclosed by Taghadoss as embodied by said managed objects and network management system.

However, Taghadoss did not elaborate on subnetworks and did not disclose an off-network pointer for representing a capability of a port for carrying, according to the multiplex layer protocol, traffic services exiting the given subnetwork at the given port.

Boer disclosed an access point at which properties of the network are grouped, i.e. network elements and their properties are represented in a functionally combined way at a higher abstraction level. (Boer-Column 2 Lines 40-50). The access point represents not just the available transport capacity, but also other factors such as the load level (occupancy factor), the delay and/or the blocking probability of a particular subnetwork. (Boer-Column 4 Lines 45-50).

Art Unit: 2144

Given the Boer disclosure shown above the Examiner respectfully disagrees with the Applicant's contention that Boer is only concerned with selecting sublinks. Rather, Boer provides a means for presenting the subnetwork traffic capabilities to other subnetworks using said access points.

The Examiner thus notes that the access point by Boer is equivalent to the off-network described in the claimed invention.

In the resulting combination of Taghadoss-Boer, the access point by Boer would be implemented as another managed object in the network management system by Taghadoss. Hence, with the access point sharing the state information with the other managed objects, the network management system of Taghadoss-Boer would be able to implement '*deducing and modelling "higher layers of functions off the given subnetwork" based on the access point [off-network pointer]*'.

The Examiner thus maintains that the combination of Taghadoss-Boer '*helps enable the model of a given subnetwork to model features such as trails or traffic services over trails to other subnetworks, without the additional complexity of needing access to the internal details of the other subnetworks, which may be owned by other parties, or use incompatible management systems.*' With the combination of Taghadoss-Boer, each access point [managed object] will be sharing subnetwork

Art Unit: 2144

information (e.g. *transport capacity, load levels*) to other access points in the network.

There is no distinction between the combination of Taghadoss-Boer and the claimed invention with respect to this feature.

With respect to the USC 112 rejections, the Applicant presents the following argument(s) [in italics]:

'A skilled person would have no difficulty interpreting this feature, and envisaging various ways of implementing it. Thus it is not appropriate to limit the claim to any one way of determining which ports represent valid termination points, and leave other ways unprotected.'

The Examiner respectfully disagrees with the Applicant. Where there are no method steps and criteria presented for *'determining which ports represent valid termination points'*, it would not be obvious for a person of ordinary skill in the art to determine the scope of the claims. It is noted that when the Applicant objects to *'leaving other ways unprotected'*, the implication is that the Applicant intends all possible methods available, including those method steps that are yet to be invented in the future. Furthermore the word *'valid'* is a relative term, which again presents the same issues regarding the scope of said claims.

Conclusion

Examiner's Note: Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant.

Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

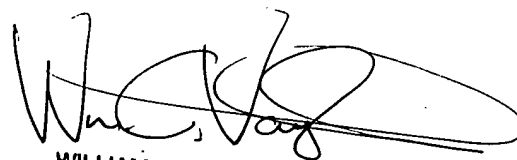
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Greg Bengzon whose telephone number is (571) 272-3944. The examiner can normally be reached on Mon. thru Fri. 8 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Vaughn can be reached on (571) 272-3922. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2144

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

gcb



WILLIAM VAUGHN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

